OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **PARTRIDGE LAKE** the program coordinators recommend the following actions.

FIGURE INTERPRETATION

- Figure 1: These graphs illustrate concentrations of chlorophyll-a in the water column. Algae are microscopic plants that are a natural part of lake ecosystems. Algae contain chlorophyll-a, a pigment necessary for photosynthesis. A measure of chlorophyll-a can indicate the abundance of algae in a lake. The historical data (the bottom graph) show a *variable* in-lake chlorophyll-a trend, with a decrease observed in 1999 and 2000. Chlorophyll concentrations remained below the New Hampshire mean reference line for the second year in a row, and increased only slightly as the summer progressed. Golden-brown algae were dominant in the lake throughout the summer. While algae are present in all lakes, an excess amount of any type is not welcomed. Concentrations can increase when there are external and internal sources of phosphorus, which is the nutrient algae depend upon for growth. It's important to continue the education process and keep residents aware of the sources of phosphorus and how it influences lake quality.

- Figure 2: Water clarity is measured by using a Secchi disk. Clarity, or transparency, can be influenced by such things as algae, sediments from erosion, and natural colors of the water. The graphs on this page show historical and current year data. The lower graph shows a *fairly stable* trend in lake transparency. Water clarity in the lake was lower than last season's results, but remained above the New Hampshire mean reference line. Clarity readings declined slightly as the summer progressed, which corresponds with the slight increase in chlorophyll-a. The 2000 sampling season was considered to be wet and, therefore, average transparency readings are expected to be slightly lower than last year's readings. Higher amounts of rainfall usually cause more eroding of sediments into the lake and streams, thus decreasing clarity.

- Figure 3: These figures show the amounts of phosphorus in the epilimnion (the upper layer in the lake) and the hypolimnion (the lower layer); the inset graphs show current year data. Phosphorus is the limiting nutrient for plants and algae in New Hampshire waters.

Too much phosphorus in a lake can lead to increases in plant growth over time. These graphs show a *stable* trend in the upper water layer, and an *increasing* trend in the lower water layer. Epilimnetic phosphorus concentrations were stable as the summer progressed, and were below the median for New Hampshire lakes. Phosphorus concentrations in the hypolimnion were quite high this season. July results were most likely caused by the depletion of oxygen from the mid-thermocline to the bottom (see Other Comments below). Phosphorus concentrations in August and September were also caused by the depletion of oxygen, but were also elevated further by bottom sediment contaminating the samples. One of the most important approaches to reducing phosphorus levels is educating the public. Humans introduce phosphorus to lakes by several means: fertilizing lawns, septic system failures, and detergents containing phosphates are just a few. Keeping the public aware of ways to reduce the input of phosphorus to lakes means less productivity in the lake. Contact the VLAP coordinator for tips on educating your lake residents or for ideas on testing your watershed for phosphorus inputs.

OTHER COMMENTS

- This spring marked the beginning of the Diagnostic Study at Partridge Lake. The goal of this study is to determine watershed sources of pollution to the lake and to minimize those sources, thereby increasing water quality.

- The Acid Neutralizing Capacity (ANC) remains in the non-sensitive category for New Hampshire lakes and ponds (Table 5; see Chemical Monitoring Parameters section of the report). Many of the lakes in New Hampshire are unable to buffer the addition of acidic input to the waters. Partridge Lake, however, is not vulnerable. This is likely a result of the composition of the terrain in the watershed; the presence of limestone results in higher buffering abilities.

- Conductivity levels declined in many of the stations this year (Table 6). The Outlet, Inlet #05, and Inlet #10 were slightly elevated from the 1999 data, but have not reached excessive levels. Conductivity increases can indicate human-influenced activities, including septic system failures, agricultural runoff, and road runoff. We will continue to observe the levels of conductivity in Partridge Lake.

- Inlet #03 had variable phosphorus values this summer (Table 8) and some high turbidity readings (Table 11; see also Chemistry Raw Data Report). The phosphorus concentrations ranged between <5 and 78 µg/L. It is possible that sediment was collected in the sample bottle; sediments can cause excess phosphorus concentrations. This Inlet had the second highest mean total phosphorus for a tributary this year, the first being Inlet B (an inlet sampled for the Diagnostic Study; see map in Appendix C). Inlet B was only sampled on one

occasion this summer, so the result is not conclusive. If the high values were a natural occurrence it would be useful to discover the source(s) of the excess nutrients.

- Dissolved oxygen was low throughout the metalimnion and hypolimnion this summer (Table 9). This has occurred throughout the years since Partridge Lake began participating in VLAP (Table 10). Oxygen depletion causes phosphorus bound to the sediments to be released into the water column, thereby raising the phosphorus concentration in the hypolimnion. Hopefully, by reducing the external sources of phosphorus in the watershed we will be able to slow the aging process. Recommendations will be made at the end of the Diagnostic Study for how to address the internal sources of phosphorus.

- Some *Gloeotrichia* increases occurred later in the summer. This alga appears as small white dots in the water column.

NOTES

- Biologist's Note (7/31/00): Huge zoopers! Very large *Daphnia*, reproductive.

- Monitor's Note (8/21/00): Saw 1 loon. Looks like algae bloom is occurring.

USEFUL RESOURCES

Answers to Common Lake Questions, NHDES-WSPCD-92-12, NHDES Booklet, (603) 271-3503.

A Brief History of Lakes, NH Lakes Association pamphlet, (603) 226-0299 or www.nhlakes.org

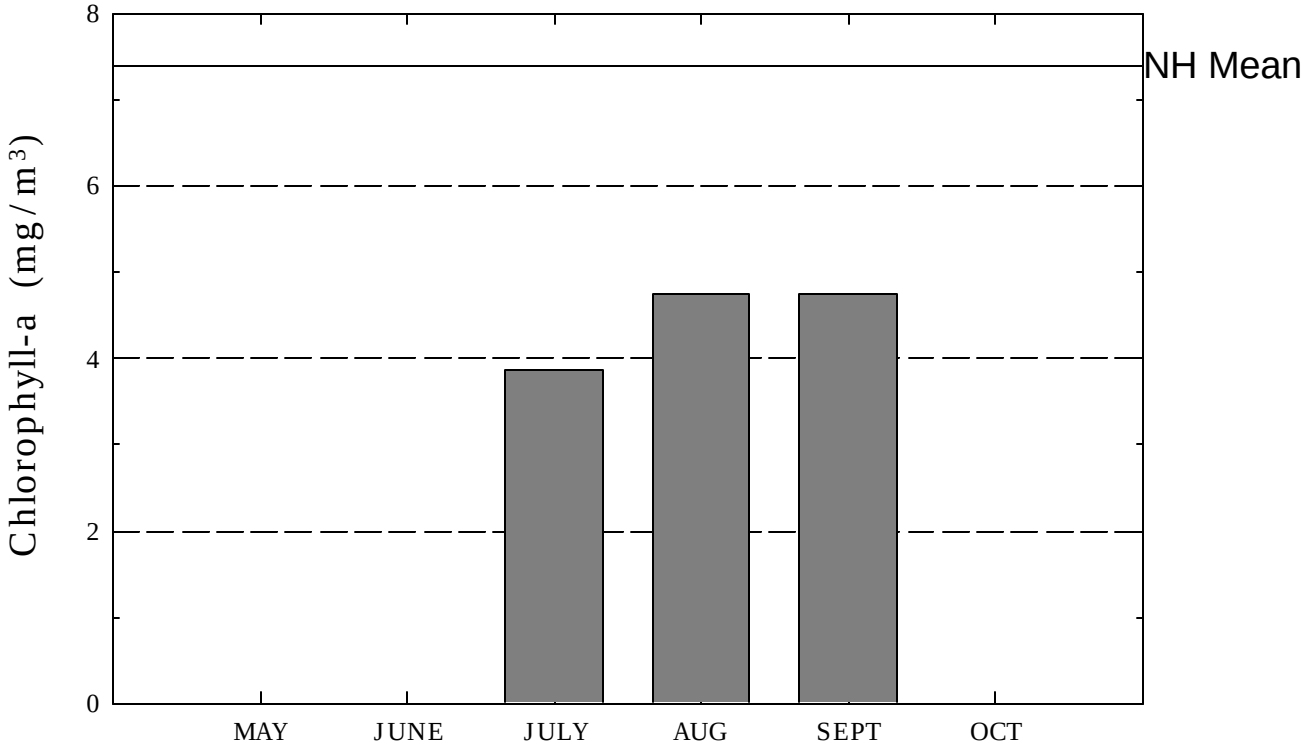
Effects of Phosphorus on New Hampshire's Lakes, NH Lakes Association pamphlet, (603) 226-0299 or www.nhlakes.org

Native or Naturalized Shoreland Plantings for New Hampshire. NHDES Shoreland Protection Program. (603) 271-3503

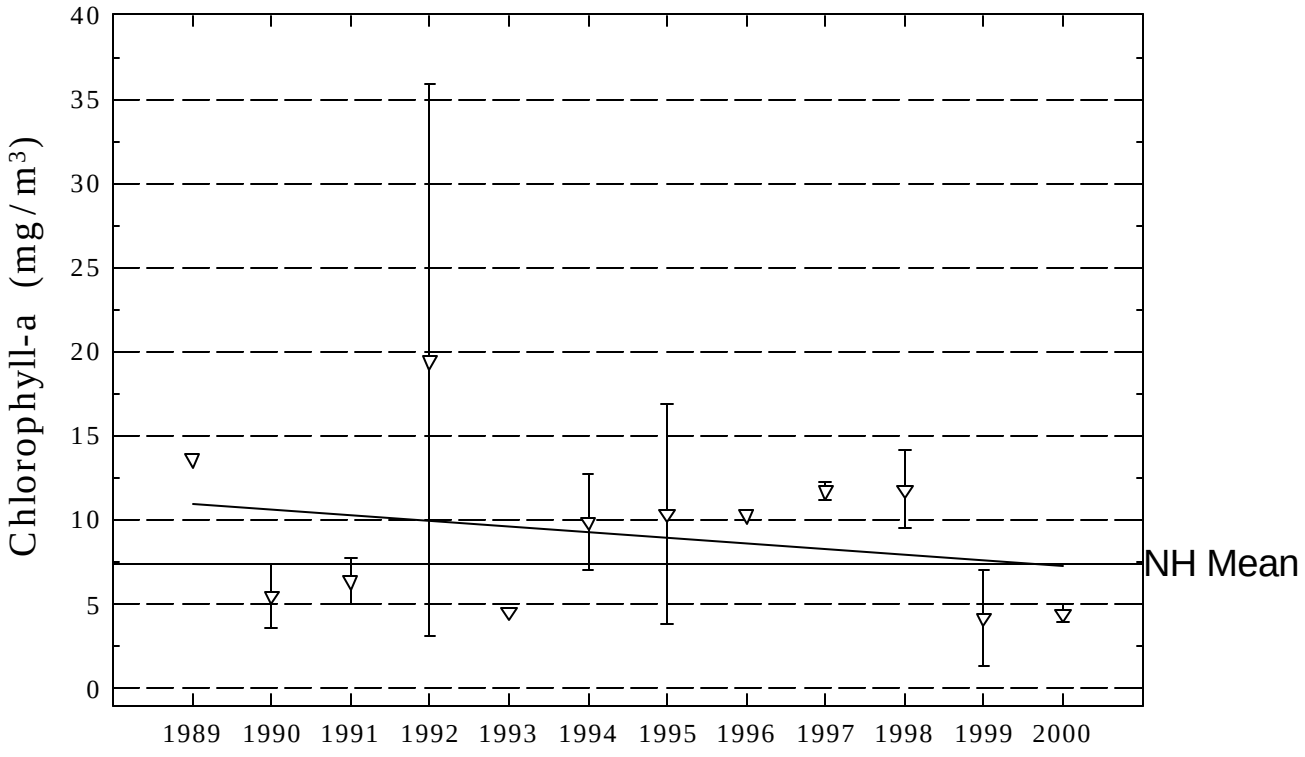
Vegetated Phosphorus Buffer Strips, NH Lakes Association pamphlet, (603) 226-0299 or www.nhlakes.org

Partridge Lake

Figure 1. Monthly and Historical Chlorophyll-a Results



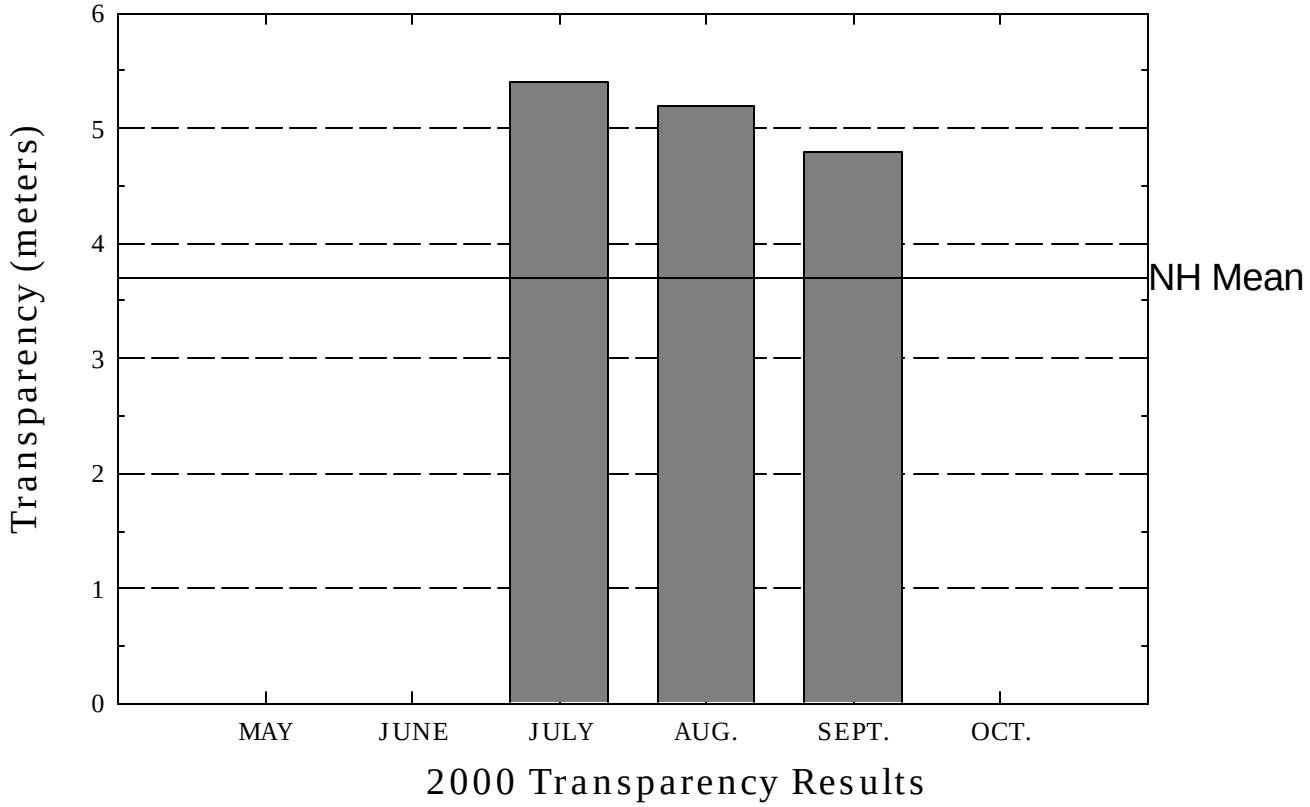
2000 Chlorophyll-a Results

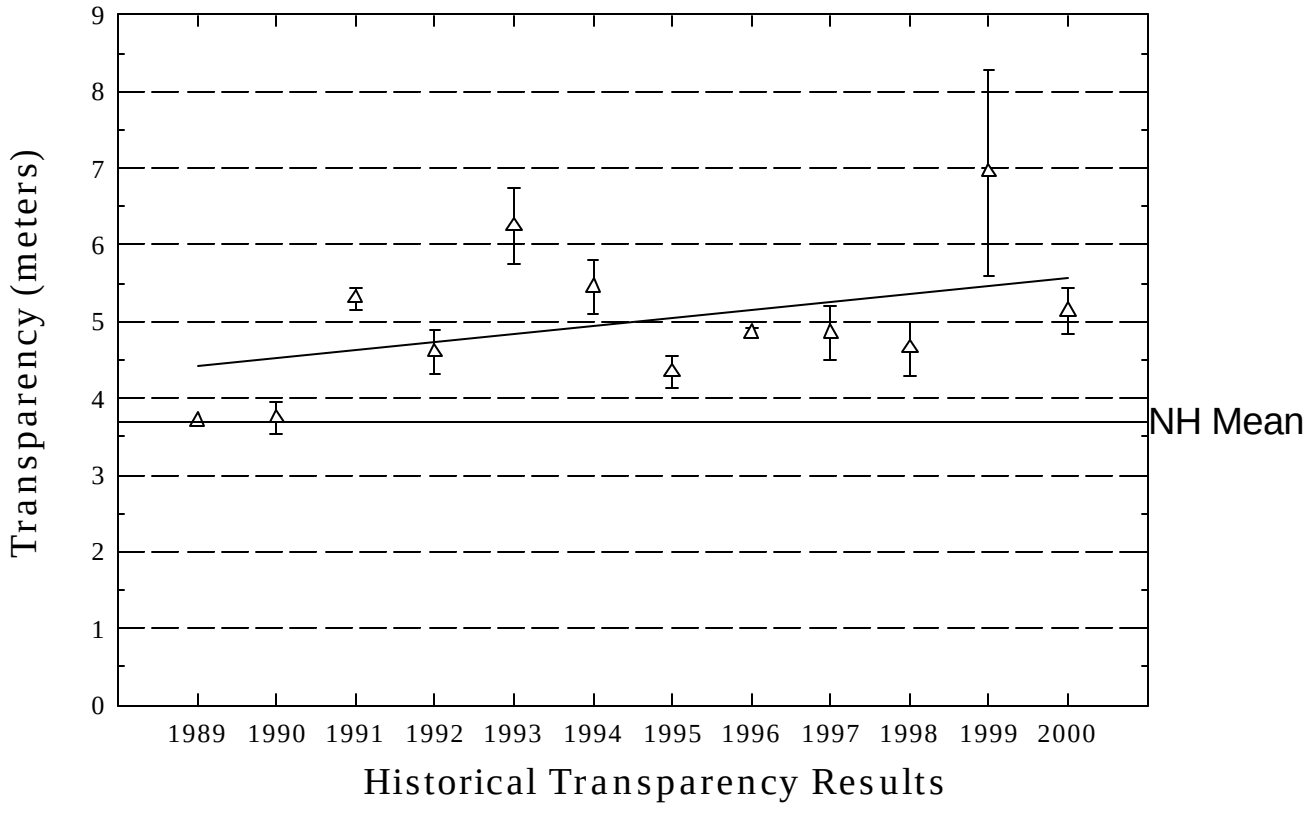


Historical Chlorophyll-a Results

Partridge Lake

Figure 2. Monthly and Historical Transparency Results





Partridge Lake

Figure 3. Monthly and Historical Total Phosphorus Data.

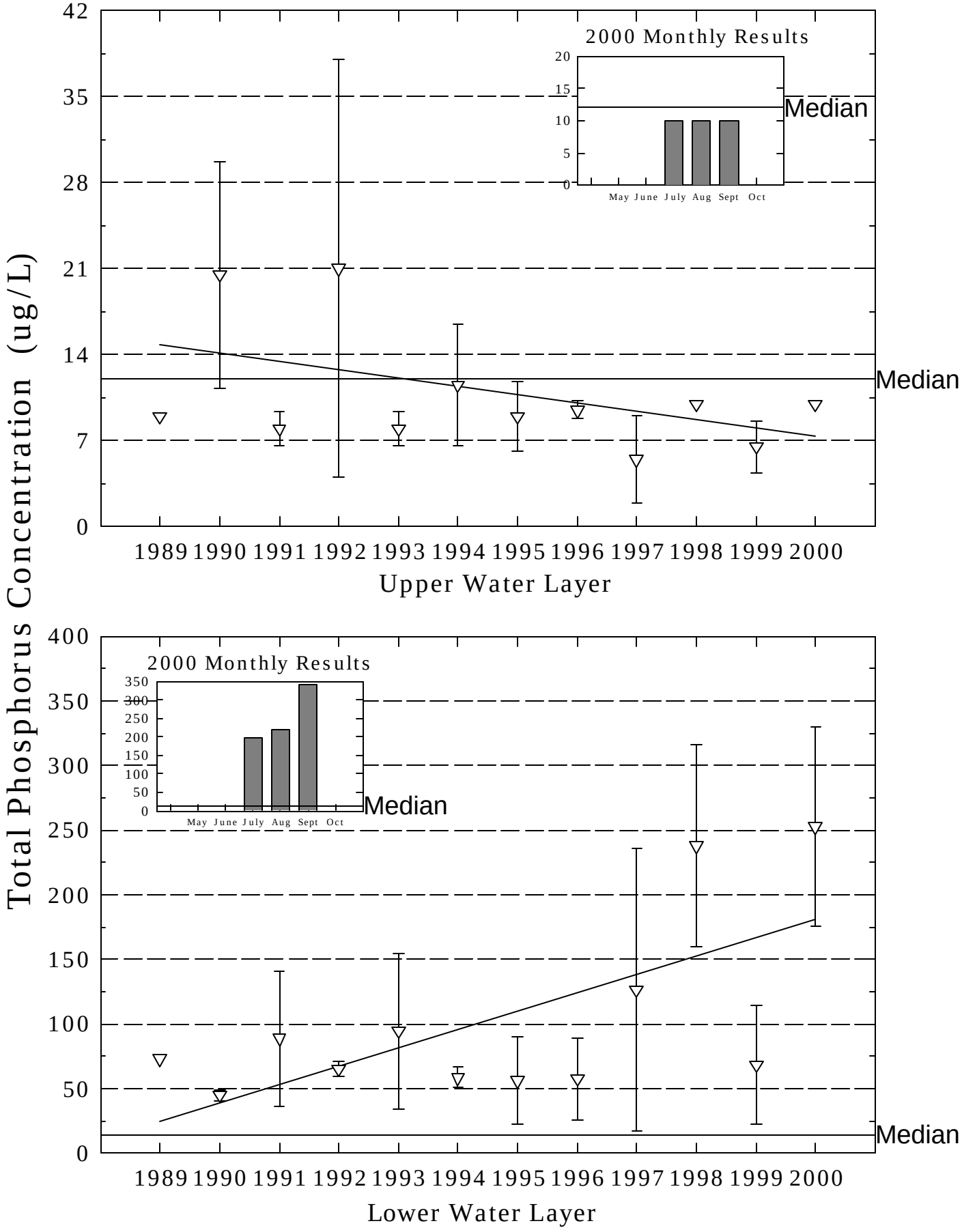


Table 1.

PARTRIDGE LAKE

LITTLETON

Chlorophyll-a results (mg/m^3) for current year and historical sampling periods.

Year	Minimum	Maximum	Mean
1989	13.63	13.63	13.63
1990	4.12	6.81	5.46
1991	5.42	7.30	6.36
1992	7.86	31.07	19.46
1993	4.54	4.54	4.54
1994	7.89	11.87	9.88
1995	5.76	15.02	10.39
1996	10.05	10.53	10.29
1997	11.36	12.11	11.73
1998	10.15	13.44	11.79
1999	2.18	6.23	4.20
2000	3.86	4.74	4.52

Table 2.

PARTRIDGE LAKE

LITTLETON

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
08/02/1989	DINOBRYON	50
	ANABAENA	
	OSCILLATORIA	
07/03/1990	CERATIUM	35
	TABELLARIA	17
	OSCILLATORIA	16
08/13/1991	DINOBRYON	35
	ASTERIONELLA	22
	ANABAENA	17
08/13/1992	DINOBRYON	34
	ANABAENA	29
	SYNEDRA	16
08/24/1993	ANABAENA	42
	APHANIZOMENON	35
08/16/1994	TABELLARIA	44
	ANABAENA	34
	DINOBRYON	14
08/16/1995	APHANIZOMENON	77
	ANABAENA	7
	DINOBRYON	7
08/19/1996	DINOBRYON	67
	APHANIZOMENON	22
	MALLOMONAS	8
08/19/1997	SINGLE APHANIZOMENON	85
	RAFTED APHANIZOMENON	6
	TABELLARIA	5
08/24/1998	ANABAENA	50
	DINOBRYON	18
	TABELLARIA	16
08/26/1999	CERATIUM	52
	DINOBRYON	26
	PLEUROCAPSA	6

Table 2.

PARTRIDGE LAKE

LITTLETON

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
07/31/2000	DINOBRYON	82
	STAURASTRUM	6
	FRAGILARIA	5
08/21/2000	DINOBRYON	71
	SCHROEDERIA	10
	CERATIUM	9
09/19/2000	DINOBRYON	41
	CERATIUM	17
	CHRYSOSPHAERELLA	11

Table 3.

PARTRIDGE LAKE

LITTLETON

Summary of current and historical Secchi Disk transparency results (in meters).

Year	Minimum	Maximum	Mean
1989	3.7	3.7	3.7
1990	3.6	3.9	3.7
1991	5.2	5.4	5.3
1992	4.4	4.8	4.6
1993	5.9	6.6	6.2
1994	5.2	5.7	5.4
1995	4.2	4.5	4.3
1996	4.8	4.9	4.8
1997	4.6	5.1	4.8
1998	4.4	4.9	4.6
1999	6.0	7.9	6.9
2000	4.8	5.4	5.0

Table 4.

PARTRIDGE LAKE

LITTLETON

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1989	7.80	7.80	7.80
	1990	7.41	7.57	7.48
	1991	7.68	7.80	7.74
	1992	7.62	7.94	7.75
	1993	7.72	7.77	7.74
	1994	7.35	7.58	7.45
	1995	7.55	7.75	7.64
	1996	7.20	7.24	7.22
	1997	7.35	7.90	7.54
	1998	7.47	7.51	7.49
	1999	7.27	7.35	7.31
	2000	7.22	7.45	7.32
HERRICK PT				
	2000	6.60	6.60	6.60
HYPOLIMNION				
	1989	6.68	6.68	6.68
	1990	6.78	6.79	6.78
	1991	6.70	6.74	6.72
	1992	6.86	6.96	6.91
	1993	6.61	6.81	6.70
	1994	6.60	6.63	6.61
	1995	6.60	6.95	6.74
	1996	6.62	6.70	6.66
	1997	6.80	7.21	6.96
	1998	6.51	6.55	6.53

Table 4.

PARTRIDGE LAKE

LITTLETON

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1999	6.52	6.68	6.59
	2000	6.57	6.60	6.58
INLET #01 UPPER				
	1994	7.50	7.50	7.50
	1995	7.43	7.47	7.45
INLET #01				
	1989	7.22	7.22	7.22
	1990	7.11	7.27	7.18
	1991	7.51	7.90	7.66
	1992	7.34	7.34	7.34
	1993	7.26	7.26	7.26
	1994	7.27	7.30	7.28
	1995	7.18	7.22	7.20
	1996	7.11	7.20	7.15
	1997	7.59	7.69	7.64
	1998	7.15	7.33	7.23
	1999	7.03	7.21	7.11
	2000	7.08	7.48	7.26
INLET #03 UPPER				
	1997	7.66	7.66	7.66
	1998	7.32	7.32	7.32
INLET #03				
	2000	7.08	7.53	7.20

Table 4.

PARTRIDGE LAKE

LITTLETON

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
INLET #05 UPPER				
	1993	7.65	7.65	7.65
	1994	7.74	7.74	7.74
	1995	7.52	7.63	7.57
INLET #05				
	1989	7.66	7.66	7.66
	1990	7.47	7.60	7.53
	1991	7.45	7.70	7.56
	1992	7.71	7.71	7.71
	1993	7.53	7.68	7.60
	1994	7.59	7.68	7.63
	1995	7.54	7.58	7.56
	1996	7.48	7.50	7.49
	1997	7.80	7.93	7.86
	1998	7.41	7.70	7.53
	1999	7.28	7.36	7.32
	2000	7.24	7.52	7.42
INLET #06				
	1994	7.69	7.69	7.69
	1995	7.62	7.62	7.62
	1996	7.58	7.59	7.59
	1998	7.73	7.73	7.73
	1999	7.46	7.46	7.46
	2000	7.27	7.66	7.42

Table 4.

PARTRIDGE LAKE

LITTLETON

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
INLET #10				
	1990	7.27	7.72	7.44
	1991	7.43	7.43	7.43
	1992	7.58	7.58	7.58
	1996	7.21	7.39	7.29
	1997	7.42	7.60	7.50
	1998	7.54	7.54	7.54
	1999	7.00	7.00	7.00
	2000	7.23	7.47	7.36
INLET B				
	2000	6.89	6.89	6.89
INLET D				
	2000	6.97	6.97	6.97
INLET F				
	2000	6.64	7.15	6.80
INLET L				
	2000	6.37	6.37	6.37
METALIMNION				
	1989	7.02	7.02	7.02
	1990	7.23	7.29	7.26
	1991	7.65	9.70	7.95
	1992	7.55	7.86	7.68
	1993	7.55	8.34	7.79

Table 4.

PARTRIDGE LAKE

LITTLETON

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1994	7.30	7.40	7.35
	1995	6.90	7.34	7.07
	1996	6.71	7.30	6.91
	1997	6.77	7.23	6.94
	1998	6.66	6.73	6.69
	1999	6.63	6.70	6.66
	2000	6.56	6.60	6.58
OUTLET				
	1989	7.36	7.36	7.36
	1990	7.45	7.48	7.46
	1991	7.33	7.70	7.48
	1992	7.49	7.49	7.49
	1993	7.39	7.40	7.40
	1994	7.45	7.62	7.53
	1995	7.74	8.05	7.87
	1996	7.37	7.40	7.38
	1997	7.58	7.88	7.70
	1998	7.63	7.73	7.68
	1999	7.26	7.40	7.32
	2000	7.14	7.65	7.41
SPRING				
	2000	7.19	7.19	7.19

Table 5.

PARTRIDGE LAKE

LITTLETON

Summary of current and historical Acid Neutralizing Capacity.
Values expressed in mg/L as CaCO .

Epilimnetic Values

Year	Minimum	Maximum	Mean
1989	23.00	23.00	23.00
1990	20.20	21.90	21.05
1991	23.00	23.70	23.35
1992	22.70	45.20	33.95
1993	23.70	24.00	23.85
1994	20.60	23.10	21.85
1995	19.70	23.60	21.65
1996	18.40	22.10	20.25
1997	22.20	22.70	22.45
1998	23.80	24.00	23.90
1999	22.10	24.80	23.45
2000	21.60	22.90	22.40

Table 6.

PARTRIDGE LAKE

LITTLETON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1989	69.8	69.8	69.8
	1990	65.8	67.0	66.4
	1991	69.7	69.9	69.8
	1992	67.9	69.2	68.5
	1993	70.1	70.1	70.1
	1994	73.3	75.2	74.2
	1995	73.2	75.1	74.1
	1996	68.5	69.2	68.8
	1997	70.6	71.8	71.2
	1998	71.1	71.2	71.1
	1999	76.8	79.6	78.2
	2000	76.6	78.1	77.2
HERRICK PT				
	2000	45.9	45.9	45.9
HYPOLIMNION				
	1989	93.1	93.1	93.1
	1990	78.0	82.8	80.4
	1991	77.0	85.3	81.1
	1992	85.1	93.1	89.1
	1993	82.5	92.9	87.7
	1994	89.1	90.2	89.6
	1995	77.6	80.7	79.1
	1996	89.5	98.8	94.1
	1997	91.5	101.3	96.4
	1998	111.7	162.8	137.2

Table 6.

PARTRIDGE LAKE

LITTLETON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1999	91.1	99.9	95.5
	2000	85.3	101.1	89.8
INLET #01 UPPER				
	1994	121.6	121.6	121.6
	1995	115.7	116.7	116.2
INLET #01				
	1989	101.3	101.3	101.3
	1990	49.2	63.4	56.3
	1991	96.1	96.5	96.3
	1992	95.0	95.0	95.0
	1993	112.1	112.1	112.1
	1994	118.0	120.9	119.4
	1995	113.3	113.7	113.5
	1996	74.9	82.0	78.4
	1997	87.5	101.4	94.4
	1998	92.0	93.7	92.8
	1999	114.3	118.9	116.6
	2000	55.2	125.3	108.6
INLET #03 UPPER				
	1997	81.7	81.7	81.7
	1998	90.2	90.2	90.2
INLET #03				
	2000	89.5	100.4	96.5
INLET #05 UPPER				
	1993	178.7	178.7	178.7

Table 6.

PARTRIDGE LAKE

LITTLETON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1994	195.4	195.4	195.4
	1995	179.9	181.3	180.6
INLET #05				
	1989	146.9	146.9	146.9
	1990	106.4	143.5	124.9
	1991	151.5	168.6	160.0
	1992	161.3	161.3	161.3
	1993	115.2	173.3	144.2
	1994	181.2	181.4	181.3
	1995	170.0	174.2	172.1
	1996	144.9	149.4	147.1
	1997	160.6	164.0	162.3
	1998	163.4	164.8	164.1
	1999	143.5	145.6	144.5
	2000	143.0	166.5	157.4
INLET #06				
	1994	116.8	116.8	116.8
	1995	106.7	106.7	106.7
	1996	79.2	80.7	79.9
	1998	98.4	98.4	98.4
	1999	115.2	115.2	115.2
	2000	54.8	119.5	96.8
INLET #10				
	1990	62.1	75.6	68.8
	1991	90.3	90.3	90.3
	1992	97.6	97.6	97.6

Table 6.

PARTRIDGE LAKE

LITTLETON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1996	75.9	96.0	85.9
	1997	85.5	99.5	92.5
	1998	99.0	105.7	102.3
	1999	96.5	96.5	96.5
	2000	91.1	116.0	105.0
INLET B				
	2000	85.0	85.0	85.0
INLET D				
	2000	56.5	56.5	56.5
INLET F				
	2000	31.6	51.1	46.5
INLET L				
	2000	87.8	87.8	87.8
METALIMNION				
	1989	75.2	75.2	75.2
	1990	70.1	72.4	71.2
	1991	71.7	75.5	73.6
	1992	73.6	75.9	74.7
	1993	73.7	74.2	73.9
	1994	77.0	77.2	77.1
	1995	74.4	74.8	74.6
	1996	79.5	87.9	83.7
	1997	77.6	80.7	79.1
	1998	84.5	113.1	98.8
	1999	81.9	85.4	83.6

Table 6.

PARTRIDGE LAKE

LITTLETON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	2000	85.3	89.6	87.0
OUTLET				
	1989	68.8	68.8	68.8
	1990	64.6	65.5	65.0
	1991	69.1	70.9	70.0
	1992	68.9	68.9	68.9
	1993	71.7	73.3	72.5
	1994	74.4	76.5	75.4
	1995	72.6	74.8	73.7
	1996	69.0	69.6	69.3
	1997	70.9	71.5	71.2
	1998	71.4	72.9	72.1
	1999	78.7	79.1	78.9
	2000	55.5	78.4	74.4
SPRING				
	2000	48.1	48.1	48.1

Table 8.

PARTRIDGE LAKE

LITTLETON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1989	9	9	9
	1990	14	27	20
	1991	7	9	8
	1992	9	33	21
	1993	7	9	8
	1994	8	15	11
	1995	7	11	9
	1996	9	10	9
	1997	3	8	5
	1998	10	10	10
	1999	5	8	6
	2000	10	10	10
GOUDIE WELL				
	1998	5	5	5
HERRICK PT				
	2000	5	5	5
HYPOLIMNION				
	1989	73	73	73
	1990	42	48	45
	1991	52	126	89
	1992	61	69	65
	1993	52	137	94
	1994	53	64	58
	1995	32	80	56
	1996	35	80	57

Table 8.

PARTRIDGE LAKE

LITTLETON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1997	49	204	126
	1998	183	293	238
	1999	36	101	68
	2000	198	341	233
INLET #01 UPPER				
	1994	12	12	12
	1995	6	7	6
INLET #01				
	1989	8	8	8
	1990	15	52	33
	1991	5	50	27
	1992	9	9	9
	1993	10	10	10
	1994	7	9	8
	1995	5	7	6
	1996	9	11	10
	1997	2	9	5
	1998	13	19	16
	1999	7	8	7
	2000	5	8	6
INLET #03 UPPER				
	1997	1	4	2
	1998	5	5	5
INLET #03				
	2000	< 5	78	30

Table 8.

PARTRIDGE LAKE

LITTLETON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
INLET #05 UPPER				
	1993	26	26	26
	1994	16	16	16
	1995	9	9	9
INLET #05				
	1989	12	12	12
	1990	14	28	21
	1991	9	12	10
	1992	11	11	11
	1993	8	14	11
	1994	11	16	13
	1995	9	10	9
	1996	14	16	15
	1997	9	17	13
	1998	16	17	16
	1999	12	17	14
	2000	11	29	16
INLET #06				
	1994	13	13	13
	1995	5	5	5
	1996	6	7	6
	1998	7	7	7
	1999	5	5	5
	2000	5	22	13

Table 8.

PARTRIDGE LAKE

LITTLETON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
INLET #10				
	1990	12	13	12
	1991	8	8	8
	1992	5	5	5
	1996	5	6	5
	1997	1	11	6
	1998	5	5	5
	1999	7	7	7
	2000	5	12	8
INLET B				
	2000	45	45	45
INLET D				
	2000	< 5	5	5
INLET F				
	2000	5	51	18
INLET L				
	2000	29	29	29
MERRILL SPRING				
	1997	4	4	4
	1998	11	11	11
METALIMNION				
	1989	21	21	21
	1990	24	26	25
	1991	25	36	30
	1992	14	48	31

Table 8.

PARTRIDGE LAKE

LITTLETON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1993	9	44	26
	1994	28	128	78
	1995	22	22	22
	1996	12	25	18
	1997	17	51	34
	1998	12	17	14
	1999	12	13	12
	2000	14	15	14
OUTLET				
	1989	8	8	8
	1990	14	15	14
	1991	7	9	8
	1992	7	7	7
	1993	7	8	7
	1994	10	19	14
	1995	9	10	9
	1996	8	11	9
	1997	5	8	6
	1998	8	60	34
	1999	7	8	7
	2000	6	15	9
SOUTH COVE				
	1996	35	35	35
SPRING				
	2000	9	9	9

Table 8.

PARTRIDGE LAKE

LITTLETON

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
WEST COVE				
	1996	33	33	33

Table 9.

PARTRIDGE LAKE

LITTLETON

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
	July 31, 2000		
0.1	23.1	8.3	96.0
1.0	23.1	8.2	95.0
2.0	23.1	8.2	95.0
3.0	22.7	8.2	93.0
4.0	19.8	8.4	90.0
5.0	14.7	3.5	34.0
6.0	12.1	0.7	6.0
7.0	10.3	0.7	6.0
8.0	8.7	0.6	5.0
9.0	7.4	0.6	5.0
10.0	6.7	0.7	6.0
11.0	6.5	0.8	6.0
12.0	6.2	0.8	7.0
13.0	6.1	0.9	7.0
14.0	6.1	1.1	8.0
	August 21, 2000		
0.1	21.3	9.1	102.0
1.0	20.8	9.1	100.0
2.0	20.7	9.0	99.0
3.0	20.7	9.0	97.0
4.0	20.5	8.6	94.0
5.0	17.6	1.1	12.0
6.0	13.8	0.6	5.0
7.0	11.0	0.5	5.0
8.0	9.2	0.5	4.0
9.0	7.8	0.5	4.0
10.0	7.2	0.5	4.0
11.0	6.7	0.6	4.0
12.0	6.4	0.6	5.0

Table 9.

PARTRIDGE LAKE

LITTLETON

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
		August 21, 2000	
13.0	6.2	0.7	6.0
14.0	6.1	0.8	6.0
		September 19, 2000	
0.1	18.7	7.3	76.0
1.0	18.5	7.3	76.0
2.0	18.5	7.2	76.0
3.0	18.5	7.2	76.0
4.0	18.4	7.3	76.0
5.0	18.2	6.7	70.0
6.0	16.0	0.4	4.0
7.0	12.1	0.4	4.0
8.0	9.8	0.4	4.0
9.0	8.3	0.5	4.0
10.0	7.4	0.5	4.0
11.0	6.8	0.6	5.0
12.0	6.4	0.6	5.0
13.0	6.3	0.7	5.0
14.0	6.2	0.8	6.0

Table 10.

PARTRIDGE LAKE

LITTLETON

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
August 2, 1989	14.0	4.6	12.0	10.0
July 3, 1990	14.0	4.5	1.2	9.3
August 13, 1991	14.5	5.0	0.2	1.6
August 13, 1992	14.5	4.2	0.0	0.0
August 24, 1993	14.5	4.9	0.3	2.0
August 16, 1994	13.0	4.7	0.2	2.0
August 16, 1995	15.0	5.0	0.3	2.0
August 19, 1996	15.0	5.2	0.2	2.0
August 19, 1997	14.0	5.3	0.4	3.0
August 24, 1998	14.0	4.9	0.0	0.0
August 26, 1999	14.0	5.5	0.2	1.2
July 31, 2000	14.0	6.1	1.1	8.0
August 21, 2000	14.0	6.1	0.8	6.0
September 19, 2000	14.0	6.2	0.8	6.0

Table 11.

PARTRIDGE LAKE

LITTLETON

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1997	0.3	0.4	0.4
	1998	0.8	1.8	1.3
	1999	0.2	0.4	0.3
	2000	0.3	0.4	0.4
HERRICK PT				
	2000	0.2	0.2	0.2
HYPOLIMNION				
	1997	4.3	7.6	5.9
	1998	2.6	2.6	2.6
	1999	2.8	4.1	3.4
	2000	0.4	4.2	1.6
INLET #01				
	1997	0.2	0.3	0.3
	1998	0.6	1.0	0.8
	1999	0.2	0.3	0.2
	2000	0.0	0.3	0.1
INLET #03 UPPER				
	1997	0.0	0.0	0.0
	1998	0.3	0.3	0.3
INLET #03				
	2000	0.2	13.5	4.7
INLET #05				
	1997	0.0	0.1	0.1
	1998	0.2	0.3	0.2
	1999	0.1	0.8	0.4

Table 11.

PARTRIDGE LAKE

LITTLETON

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
INLET #05				
	2000	0.0	0.6	0.2
INLET #06				
	1998	0.3	0.3	0.3
	1999	0.1	0.1	0.1
	2000	0.1	0.4	0.2
INLET #10				
	1997	0.3	0.3	0.3
	1998	0.4	0.4	0.4
	1999	0.4	0.4	0.4
	2000	0.1	0.6	0.3
INLET B				
	2000	1.4	1.4	1.4
INLET D				
	2000	0.2	0.2	0.2
INLET F				
	2000	0.0	5.4	0.9
INLET L				
	2000	4.3	4.3	4.3
METALIMNION				
	1997	1.0	2.4	1.7
	1998	1.1	2.2	1.6
	1999	0.3	0.4	0.3
	2000	0.4	0.5	0.5
OUTLET				

Table 11.

PARTRIDGE LAKE

LITTLETON

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
	1997	0.3	0.3	0.3
	1998	0.4	0.9	0.7
	1999	0.3	0.4	0.3
	2000	0.3	0.7	0.5
SPRING				
	2000	0.2	0.2	0.2